

A NEW BEE OF THE GENUS *ISCHNOMELISSA*, WITH A KEY TO THE KNOWN SPECIES (HYMENOPTERA: HALICTIDAE)¹

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ABSTRACT: A new species of the Neotropical bee genus *Ischnomelissa* (Halictinae: Augochlorini) is described and figured. *Ischnomelissa rasmusseni*, new species, is most similar to *I. rhina* but can be distinguished by the structure of the inner metatibial spur, coloration of the legs and metasoma, presence of strong tomentose bands on the metasoma, and other characters. A revised dichotomous key to the species of the genus is presented.

Bees of the augochlorine genus *Ischnomelissa* Engel are rarely encountered and nothing is known of their biology. Species are most similar to the genus *Chlerogella* Michener because of the elongate head (due to a frequently elongate malar space) and propodeum. *Ischnomelissa* species can be most easily separated from *Chlerogella* by the inner metatibial spur of females which is densely pectinate with more than 10 teeth. Engel (2000) has provided descriptions of both genera and means for distinguishing them as has Michener (2000) who considered *Ischnomelissa* a subgenus of *Chlerogella*. *Ischnomelissa* was recently revised and six species recognized (Brooks and Engel 1998), all from Ecuador and Colombia. Subsequently, we have received from Claus Rasmussen (Iquitos, Peru) a seventh species of this uncommon genus. Herein we provide a description of this new species for use by Rasmussen in his studies of Peruvian and Ecuadorian Apoidea. In addition, we provide a revised key to the species of the genus.

Morphological terminology follows that of Engel (2001) while the format for the description follows that employed elsewhere for augochlorine bees (e.g., Engel 2000; Engel and Brooks 1998). The abbreviations F, OD, S, and T are used for flagellomere, ocellar diameter (based on the median ocellus), metasomal sternum, and metasomal tergum, respectively.

SYSTEMATICS

Ischnomelissa rasmusseni, NEW SPECIES

(Figures 1-3)

Diagnosis. In our 1998 key to species (Brooks and Engel 1998) the new species will run to *I. rhina* Brooks and Engel. Indeed, the two species are quite similar as both have a metallic green head and mesosoma with copper high-

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lights. The new species can be readily distinguished from *I. rhina* by the strong, basal tomentose tergal bands on the metasoma, sculpturing of the mesosoma, structure of the inner metatibial spur, and the black legs and dark brown metasomal terga.

Description. FEMALE. Total body length 8.82 mm; forewing length 6.67 mm. Head longer than wide (length 2.25 mm, width 1.67 mm). Mandible with strong subapical tooth. Malar space as long as basal mandibular width. 95% of clypeus below lower tangent of compound eyes. Maxillary palpus 0.85 times length of compound eye. Frontal line carinate from between antennal sockets to median ocellus. Distance from median ocellus to lateral ocellus 1.50 mm; between lateral ocelli 0.20 mm; ocellocular distance 0.23 mm; diameter of median ocellus 0.17 mm; upper interorbital distance 0.83 mm; lower interorbital distance 0.75 mm. Median line of mesoscutum strongly impressed; parapsidal lines faint. Intertegular distance 1.50 mm. Basal area of propodeum slightly longer than combined lengths of scutellum and metanotum. Inner metatibial spur with 17 teeth, not including apical projection. Basal vein distad cu-a by twice vein width; 1rs-m distad 1m-cu by four times vein width; 2rs-m distad 2m-cu by seven vein widths, relatively straight; first submarginal cell longer than combined lengths of second and third submarginal cells; anterior margin of second submarginal cell as long as anterior margin of third submarginal cell; second submarginal cell slightly narrowed anteriorly; length of posterior margin of third submarginal cell slightly less than twice length of anterior margin. Distal hamuli arranged 2-1-2.

Mandible black with dark reddish-brown apex; labrum, clypeal apex, and antenna black; remainder of head dark metallic green with copper highlights. Mesosoma dark metallic green with copper highlights except legs black and tegula semi-translucent brown. Wing veins dark brown; membrane hyaline. Terga dark brown with translucent brown apical margins (the apical margins in some places overlap the basal, yellow, tomentose bands of succeeding terga and therefore are more contrasting); sterna dark brown.

Clypeus and supraclypeal area with faint, coarse punctures separated by 1-2 times a puncture width, punctures becoming smaller and more strongly impressed on upper border of supraclypeal area, integument between punctures smooth; remainder of face with small, contiguous punctures, punctures becoming minute and more weakly defined by vertex; vertex and gena with minute punctures separated by 2-3 times a puncture width, integument between smooth; postgena imbricate. Pronotum finely imbricate; mesoscutum with small punctures separated by a puncture width, integument between smooth; scutellum sculptured as on mesoscutum except punctures slightly more faint; metanotum faintly rugose. Preëpisternum and mesepisternum with minute punctures separated by 2-5 times a puncture width, integument between punctures smooth; metepisternum smooth, with a few, weak transverse striae in upper fifth. Lateral surfaces, posterior surface, and basal area of propodeum strongly imbricate. Terga and sterna imbricate.

Pubescence of face yellow, setae simple and scattered (1-2 OD), with short (0.5-1 OD), subappressed, plumose setae along inner margin of compound eye. Setae of gena and postgena yellow, those of gena 0.5-1 OD in length, becoming progressively longer by postgena, those of postgena 2-3 OD in length. Dorsal collar of pronotum with dense, short (0.5-1 OD), plumose setae extending laterally to pronotal lobe. Pubescence of mesoscutum and scutellum scattered, yellow-fuscous, 1-1.5 OD in length; lateral and posterior borders of mesoscutum with short (0.5-1 OD), plumose setae; setae of scutellum slightly longer than those of mesoscutum; metanotum with longer setae (1-3 OD). Pleura with scattered, fuscous setae with white apices, setae progressively becoming longer ventrally, 1-3.5 OD in length. Pubescence of legs black, setae on inner surface of metatibia with white apices. Propodeal lateral and posterior surfaces with long (3-4 OD), yellow setae each with a few short branches. Metasomal T1 with scattered, erect, moderately-long (2-3 OD), yellow setae; setae of remaining terga with shorter (1-2 OD) appressed, yellow-fuscous setae; terga with strong, postgradular, yellow, tomentose bands (sometimes partially covered by translucent, apical margins of preceding terga depending on preserved

position of metasoma; even when overlapped by preceding tergum, band still easily visible through translucent apical margin); sterna with scattered, mostly simple, white setae; sternal setae progressively becoming longer, ranging from one OD in length basally to four OD in length apically on each tergum.

MALE. Unknown.

Holotype. ♀, ECUADOR: LO [Loreto Prov.], Loja, Jardín Botánico Reinaldo Espinosa, Iii01 [1 February 2001], [C.] Rasmussen // 4° 2.284'S, W79° 11.957', 2152 m s.l. [sea level] // Holotype, *Ischnomelissa rasmusseni* Engel & Brooks [red label]. Deposited in the Division of Entomology, Natural History Museum and Biodiversity Research Center, University of Kansas.

Etymology. The specific epithet is a patronymic honoring Claus Rasmussen, collector of the holotype, who generously donated the specimen to the University of Kansas.



Fig. 1. Lateral habitus of holotype female of *Ischnomelissa rasmusseni*, new species.

Key to Females of *Ischnomelissa*

(females unknown for *I. octogesima* and *I. ecuadoriana*)

- 1. Malar space as long as or longer than basal width of mandible 2
- Malar space shorter than basal width of mandible 4



Figs. 2-3. Holotype female of *Ischnomelissa rasmusseni*, new species. 2. Frontal view of face. 3. Dorsal view of metasoma, with yellow bands of basal tomentum indicated.

2. Head and mesosoma metallic green with copper highlights 3
- Head and mesosoma dark metallic blue *I. lescheni* Brooks & Engel
3. Metasomal terga dark brown, with well-developed and distinct basal bands of yellow tomentum; legs entirely dark brown to black; inner metatibial spur with 17 teeth, not including apical projection *I. rasmusseni*, new species
- T1 and most of T2 amber, remainder of metasoma brown, tergal graduli with minute, fringe of yellow tomentum (frequently completely hidden by preceding tergum); tarsi, tibiae, and femoral apices amber, remainder of legs brown; inner metatibial spur with 13 teeth, not including apical projection *I. rhina* Brooks & Engel
4. Integument of head and mesosoma dark metallic blue; T1-2 dark brown; inner metatibial spur with 12 teeth, not including apical projection *I. cyanea* Brooks & Engel
- Integument of head and mesosoma nonmetallic, dark brown; T1 and most of T2 amber; inner metatibial spur with 15-20 teeth, not including apical projection *I. zonata* Engel

Key to Males of *Ischnomelissa*

(males unknown for *I. rhina*, *I. cyanea*, and *I. rasmusseni*)

1. Malar space almost as long as wide to slightly longer than wide 2
- Malar space linear, much shorter than wide *I. zonata* Engel
2. Head, mesosoma, and metasoma concolorous metallic green to blue; body length 8.0 mm or greater 3
- Head and mesosoma metallic green and metasoma amber to amber-brown; body length 6.7 mm or less *I. octogesima* Brooks & Engel
3. F1 one-half length of F2; mandible, malar space, and scape at least anteriorly pale; malar space slightly shorter than wide *I. lescheni* Brooks & Engel
- F1 one-fourth length of F2; mandible, malar space, and scape dark brown to black; malar space slightly longer than wide *I. ecuadoriana* Brooks & Engel

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